IN THE SPECIFICATION

Please amend the paragraphs of the specification as follows:

Page 8, paragraph **[1044]**

[1044] Control applications and high layer protocols utilize the services provided by the LAC layer 116. The LAC layer 116 performs the functions essential to set up, maintain, and release a logical link connection, including delivery of messages. The MAC layer 114 provides a control function that manages resources supplied by the physical layer 112. For example, the MAC layer 114 controls the physical code channels for communication of information ~~over the air~~ over-the-air interface. The MAC layer 114 further coordinates the usage of those resources desired by various LAC service entities. Such coordination function resolves contention issues between LAC service entities within a single mobile station, as well as between competing mobile stations. The MAC layer 114 delivers Quality of Service, QoS, level requests from LAC services. For example, the MAC may reserve air interface resources or resolve priorities between competing LAC service entities.

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Page 9, paragraph **[1047]**

[1047] The architecture 110 is applicable to an Access Network, AN, for providing data connectivity between an IP network, such as the Internet, and access terminals, including wireless mobile units. Access Terminals, ~~Ats~~ ATs, provide data connectivity to a user. An AT may be connected to a computing device such as a laptop personal computer or may be a self-contained data device such as a personal digital assistant. There are a variety of wireless applications and an ever- increasing number of devices, often referred to as IP appliances or web appliances. As illustrated in FIG. 2, layers above the LAC layer 116 are service network layers and layers below the HDLC layer 120 are radio network layers. In other words, the radio network layers affect the air-interface protocols. The radio network layers of the exemplary embodiment implement the "TL80-54421-1 HDR Air Interface Specification" referred to as "the HAI specification." The HAI specification is sometimes referred to as "1xEVDO." HDR generally provides an efficient method of transmitting data in a wireless communication system.

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Alternate embodiments may implement the "TIA/EIA/IS-2000 Standards for cdma2000 Spread Spectrum Systems" referred to as "the cdma2000 standard," the "TIA/EIA/IS-95 Mobile Station-Base Station Compatibility Standard for Dual-Mode Wideband Spread Spectrum Cellular System," hereinafter referred to as "the IS-95 standard," or other per-user connection systems, such as the "ANSI J-STD-01 Draft Standard for W-CDMA (Wideband Code Division Multiple Access) Air Interface Compatibility Standard for 1.85 to 1.99 GHz PCS Applications" referred to as "W-CDMA."

A2 cont'd

Page 11, paragraph **[1054]**

[1054] FIGs. 3A and 3B illustrate a transmission protocol implemented in a LAC layer ~~114~~ 116, wherein each message 200 includes multiple fields including: a header 202; multiple fields 204 to 206; ~~information~~ data 208; and a tail 210. The header 202 includes control information for transmission and receipt of the message, including but not limited to, message length, message identifier, protocol version discriminator, etc. The fields 204 to 206 include any number of fields, including but not limited to addressing fields, encryption fields, authentication field and fields that are used to provide message retransmissions (ARQ). In one embodiment, the ~~information~~ data field 208 provides signaling information, such as control messages, from the transmitter to receiver. The tail frame 210 includes termination information for the message, including a Code Redundancy Check, or CRC, to ensure the correctness of the message.

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Page 12, paragraph **[1057]**

[1057] The retransmission of a message on the loss of only a portion, or fragment, of the message and upon the expiration of a wait time incurs delay time to the receiver and consumes transmission bandwidth of the transmitter. To provide retransmission of the lost portion(s) or fragment(s) an exemplary embodiment of the present invention provides a method of message segmentation, illustrated in FIGs. 4A and 4B, that separates the message 200 into multiple segments 302. Each of the segments 302 is assigned a unique identifier. The first segment of the message is further identified by a Start Segment, SS, indicator. The last segment of the message is identified by an End Segment, ES, indicator. The segmentation process is defined as segmenting a given message into multiple parts. The multiple segments 302 may have varying

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lengths. The determination of the length of each of the segments 302 may be based on a channel quality estimate, or other criteria specific to a given communication system. The determination of the length of segments balances efficiency and performance. Shorter segment length incurs a greater total number of segments for the same message. Shorter segment length provides ~~increases~~ increased reliability and thus enhanced performance. A large total number of segments incur processing and storage overhead that reduce efficiency, e.g., generation of transmission of more segment parameter bits to identify the multiple segments. Ideally a system will optimize performance while maintaining low overhead.

A4 cont'd.

Page 13, paragraph **[1059]**

[1059] As discussed hereinabove, each of the K segments 302 is segmented into X fragments, wherein the total number of fragments n is given as:

$$n=K*X. \tag{2}$$

In the exemplary embodiment, the total number of fragments is equal to the total number of frames generated by the MAC layer 114 for transmission on the physical layer 112, while alternate embodiments may provide the total number of fragments as a function of the total number of frames. The resultant message error rate is defined as a function of the Segment Error Rate, SER, as:

$$\mathrm{MER}=1-(1-\mathrm{SER})^{K}, \tag{3}$$

wherein the SER is defined as:

$$\mathrm{SER}=1-(1-\mathrm{FER})^{X}. \tag{4}$$

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Page 14, paragraph **[1063]**

[1063] As illustrated in FIG. 5A, the X fragments 304 include fragments 320, 330, 340, and 350, wherein each fragment 320, 330, 340, and 350 includes a portion of message 200 and an SI. In the embodiment of FIG. 5A, the system supports message segmentation as defined by the protocol of FIG. 4A, however, for the example, transmission message segmentation is inactive. For active segmentation, segment retransmission requests are supported. In other words, the receiver may request a retransmission of a segment or portion of the transmitted message. For

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inactive segmentation, segment retransmission requests are not supported. The receiver may request retransmission of the entire message, but not a smaller unit thereof.

Page 14, paragraph **[1064]**

[1064] In the embodiment of FIG. 5A, each SI includes three bits. The significance of the SI bits is illustrated in FIGs. 5B and 5C. As illustrated in FIG. 5B, the first bit of the SI, labeled SI_1, indicates whether segmentation is active or inactive, wherein a high logic value indicates segmentation is active, else segmentation is inactive. The ~~first~~ second bit of the SI, labeled SI_2, identifies a segment start, wherein a high logic value indicates the start of a segment. The third bit of the SI, labeled SI_3, indicates a segment end, wherein a high logic value indicates the end of a segment. The significance of various bit combinations is provided in the table of FIG. 5C. Alternate embodiments may use any number of bits each having a predetermined significance. Additionally, alternate embodiments may implement an alternate polarity scheme for the SI bits.

Page 15, paragraph **[1065]**

[1065] Continuing with FIG. 5A, the first fragment 320 (of fragments 304) includes a segment identifier portion, SI 322, appended to a message portion ~~MSG_1~~ $MSG_{1,1}$ 324. The frame 320 is the first fragment in the transmission of message 200, and therefore the SI 322 is designated as 010, wherein $SI_1=0$, $SI_2=1$, and $SI_3=0$. As segmentation is inactive for this example, the second bit, SI_2, may be used to identify the start of the message, and the third bit, SI_3, may be used to identify the end of the message. The next fragment 330 includes SI portion 332 and ~~information~~ message portion $MSG_{1,2}$ 334. The SI 332 indicates a middle transmission fragment. As last fragment 350 includes SI portion 352 and information portion 354. The SI 352 indicates an end of segment, or message.

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